

THE REGISTER

Focus on ASHRAE Technology & Membership Education



President's Message

Dear Nebraska ASHRAE Members:

Thank you to all who attended our September meeting and technical session. A BIG thank you for making your reservations and payment online as well! There are two very interesting meetings scheduled this month with Omaha's meeting covering the State Energy Program and Lincoln's meeting hosting the Nebraska Chief Boiler Inspector. This month we are also having a Mini Golf Outing on Thursday, October 11th at 4pm at Pacific Springs. See the event flyer in the newsletter for more information. Jake Kopocis will be taking team sign ups at the Omaha meeting next Tuesday. Hope to see you there!

SAVE THE DATE for a free ASHRAE Webcast on April 18, 2013. The webcast topic is "Assessing Building Energy Performance: From Principles to Practice."

For our student members and anyone who knows a college student in engineering for the 2013-2014 year, ASHRAE has 22 Society-level scholarships available ranging from \$3,000 to \$10,000. Complete eligibility requirements for all scholarships and an application form are available at www.ashrae.org/scholarships. Applications for ASHRAE 2013-2014 Undergraduate Engineering, Regional, and University-specific Scholarships are now being accepted and must be submitted or postmarked on or before December 1, 2012 to receive consideration. I also have contact information for ASHRAE's Scholarship Administrator if you have any questions.

We have the following opportunities available: Student Activities Co-Chair, Grassroots Government Activities Co-Chair, an ASHRAE representative on the local Engineers Roundtable, and an ASHRAE liaison on the Local Code Review Committee. Please contact me if you are interested in any of these positions or have any questions or comments, rmeyersick@schemmer.com. Thank you for supporting ASHRAE!

Sincerely,

Renee Meyersick

Nebraska Chapter of ASHRAE President 2012-2013
www.neashrae.org

October 2012
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Chapter Officers:

President

Renee Meyersick

President Elect

Sarah Poursharafeddin

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Jessica Errett

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Board Ex-Officio

Kim Cowman

Next Month:

- Articles for next month are due by **Nov 5, 2012**
- Please send to:
Nick Decker
LEO A DALY
nrdecker@leoadaly.com



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.



**Chapter
Chairpersons:**

**Membership
Promotion**

Jake Kapocis
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Research Promotion

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Lincoln Programs

Mike Barry

E-Commerce

Eric Granzow

Historian

Jim Ellis

Reception

Nick Mandel

UNO Student Chapter

Lily Wang

**UNL Student Chapter
& Chapter Website**

Tim Wentz

Special Events

Rob Harper

Newsletter

Nick Decker
Ben Schmitt

Librarian

Bill Wieseler

FREE ASHRAE Webcast

SAVE THE DATE

April 18, 2013
1:00 pm - 4:00 pm EDT

Assessing Building Energy Performance: From Principles to Practice

This webcast will feature industry experts who will explain the importance of building energy performance and its far-reaching implications in both new and existing buildings. Viewers will also learn about the various tools and approaches that are available, as well as the many opportunities that assessing building energy performance presents. This **FREE** webcast program will broadcast live via the internet.

Visit www.ashrae.org/ABEPwebcast for additional information about the program, sponsorships, continuing education credits, speakers, and registration.

UNO Students Win First at 2012 ASHRAE Competition

ATLANTA—ASHRAE's 2012 Student Design Competition had participants staying up late and doing their research of HVAC&R system selection and design calculations as well as integrated building design to encourage practical design.

This year's competition featured a mock design of the newly constructed Joe and Rika Mansueto Library located in Chicago, Ill. The library consists of a glass dome covering 15,000 square feet of usable area on the ground floor, half of which is dedicated to a reading area and half to a preservation laboratory. The lower level of the building consists of a large warehouse for archived publications and materials. Among the entries from around the world, three

were awarded first place in the three categories that the competition offers.

First place in HVAC System Design Calculations is awarded to John Bisacquino, Josh Dennis and Travis Westover of Temple University, Philadelphia, Pa. Their faculty advisor is Steven Ridenour, Ph.D., P.E. The team chose a ground source heat pump system to generate hot and chilled water for the entire building. In order to eliminate the necessity of a cooling tower, a ground source water loop rejects heat to the earth in the cooling mode and absorbs heat in the heating mode. Ground source heat pumps have a lower operating and maintenance coast and analysis showed any additional cost of installation would be

covered in as little as 10 years. For the interior rooms on the ground floor, packaged water to air heat pumps were specified, which can be incorporated in spaces with smaller heating and cooling load requirements. For the larger areas of the ground floor (grand reading room, etc.), air handling units with water to water heat pumps will be installed to meet the larger capacities required for heating and cooling. Water to water heat pumps generate hot and chilled water, while the air handling unit filters and supplies the conditioned air to the space.

(Continued on next page)



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.



UNO Students Win First at 2012 ASHRAE Competition - continued

In order to maintain strict temperature and humidity levels in the basement storage area, a constant air volume with system will be installed. Due to the high volume of books being stored in the basement, the air must circulate continuously to maintain the target temperature and humidity levels specified by the owner. Since strict humidity levels are desired, a desiccant dehumidifying system was designed.

First place in HVAC System Selection is awarded to Alaina Booth, Adam Buck, Jami Harper, John May and Patrick MacBride of the University of Nebraska-Lincoln, Nebraska. Their faculty advisor is Joe Hazel, P.E., ASHRAE-Certified Healthcare Facility Design Professional. After analyzing three system designs for the library, the team selected a ground coupled heat exchanger (GCHE) to serve a modular packaged heat recovery chiller system with variable air volume air handling units for the upper level of the library, and constant air volume air handling units for the periphery of the upper level and the lower level archive area. The GCHE consists of a geothermal loopfield that transfers heat as needed for the primary system; the loops converge at the packaged heat recovery chiller to transfer energy to and from the field to the building systems. The air handling units for the upper level serve both terminal

boxes in office areas, and a displacement ventilation system in the open areas of the library. The constant volume air handling unit serving the archive area includes a dual energy recovery unit to tightly control humidity. In order to better serve the high ceiling space, two air circulation units are placed at either end of the archive area so that stratification cannot occur. The selected system shows a 73 percent improvement in energy efficiency compared to the ASHRAE Standard 90.1 baseline building model and is projected to reduce operating costs approximately \$1.35 million over 20 years.

First place in Integrated Sustainable Building Design is awarded to Dustin Altschul, Prathamesh Chakradeo, Ravik Chandra, Saikrishna Ganesan, Timothy Hertel, Varun Krishnan and Charles Stratton of the University of Cincinnati, Cincinnati, Ohio. Their advisor is Raj M. Manglik, Ph.D. To meet the electrical demand of the building, the students decided that photovoltaic glass would be used on the dome of the library. Daylighting also played a large role in the students' design, and window glazing was selected to offer a balance between solar heat gain and visible transmittance. Due to the specific humidity requirements of the archives of the library, the team determined that two individual air distribution systems were necessary,

which ultimately allowed for more control and energy operating costs savings. Geothermal heating was selected as the central heating system, which requires little maintenance and has a low operating cost. Additionally, exterior insulated concrete walls, which allow for no air infiltration, minimize noise and the transference of heat and cold and a switch to dual flush toilets, along with rainwater harvesting, will reduce water consumption by 22 percent.

The competition recognizes outstanding student design projects, encourages undergraduate students to become involved in the profession, promotes teamwork and allows students to apply their knowledge of practical design. The projects are shared at the 2013 Winter Conference in Dallas, Texas Jan. 26-30.

ASHRAE, founded in 1894, is a building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.



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Society of Fire Protection Engineers – October Meeting

ASHRAE members are invited to attend the Society of Fire Protection Engineers (SFPE) Great Plains Chapter meeting on Wednesday, October 10, 2012. RSVP via the SFPE Great Plains website to help streamline the check-in process at the door. More information and online registration: [SFPE-GP October 2012 Meeting](#)

SFPE-GP October 2012 Meeting Valentino's Restaurant 10190 Maple Street, in the Seminar Room

Date: 10 Oct 2012

Speaker: Frank Hertzog, Smoke Guard Inc.

Topic: Meeting Atrium Smoke Requirements

- Registration/lunch begins at 11:30 AM CDT

- Presentation begins at noon

- Introduce the use of fire- and smoke-rated curtains as fire and smoke separation in atrium, stair and escalator designs in open floor plans.
- A review of the building code requirements for these designs and how flexible rated curtains can be used to comply with these requirements.
- Use of flexible curtains to supplement smoke evacuation or to replace smoke evacuation all together as an alternative smoke control solution.
- Where required by code, the use of these curtains to provide floor to floor separation of escalators and stairs not part of the main egress path.

Great Plains Energy Codes Conference

The Nebraska Energy Office and its partners invite you to the 2012 Great Plains Energy Codes Conference, October 16-18, at the Marriott in Regency Plaza, Omaha, Nebraska. The conference will present practical how-to content, best practices and thought-provoking ideas — all with a focus on how states and local code jurisdictions can achieve compliance with the 2009 and 2012 International Energy Conservation Codes. Information on all presenters and registration for the Great Plains Energy Codes Conference is at: <http://www.neo.ne.gov/codesconf/>.

Big Ten and Friends Mechanical and Energy Conference

The University of Nebraska-Lincoln is hosting the Big Ten and Friends Mechanical and Energy Conference, October 14-17, 2012. For more information please visit: <http://big10meconf.unl.edu/>.



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.



Omaha Meeting – Tuesday, October 9, 2012

Location: Anthony’s Steakhouse, 7220 F Street, Omaha, NE 68127
Check-in: 11:30 a.m. (Please arrive early to facilitate serving meals)
Lunch: To be served prior to 12:00 p.m.
Menu: Club Sirloin **\$21.00**
 Chicken Cordon Bleu **\$16.00**
 Grilled Salmon **\$16.00**
Topic: State Energy Program
Speaker: Ginger Willson, Director Nebraska Energy Office

Pre-registration for this meeting would be GREATLY APPRECIATED!!! Double raffle tickets will be given to those who buy the bottle raffle while they RSVP on-line!

Reservation required by Friday, October 5, 2012: Nick Mandel, Specialized Engineering

Omaha’s Featured October ASHRAE Speaker

Ginger Willson began her service as the Director of the Nebraska Energy Office in July 2010, receiving her appointment from Governor Dave Heineman. She was elected in September 2012 to serve as Secretary for the National Association of State Energy Official’s Board of Directors. Ginger previously worked for nearly two years as the Assistant Director of the Nebraska Department of Agriculture, joining the Department in August 2008. She served three years as the Deputy Director of Government Relations for the National Pork Producers Council where she was

responsible for issue monitoring, developing policy strategies, managing grassroots policy and managing the 2007 Farm Bill Policy Task Force. Prior to joining NPPC, Ginger spent nearly seven years advising members of Congress. She served as Deputy Chief of Staff and Legislative Director for Rep. Jeff Fortenberry, R-Neb., and as Deputy Chief of Staff, Senior Policy Adviser and Senior Legislative Assistant to Rep. Sam Graves, R-Mo. In 2000 and 2002, Ginger was respectively Assistant Finance Director and Finance Director for Graves’s

successful election campaigns to Congress. Ginger holds a bachelor’s degree in public relations from Northwest Missouri State University in Maryville, Mo. She is from Hooper, Neb., where her family raises hogs, corn and soybeans.

Future Omaha Chapter Meetings

Nov. 13 th	Measuring and Controlling HVAC Systems	11:45 @ Anthony’s
Dec. 11 th	Acoustics That Make the Grade	11:45 @ Anthony’s
Jan. 8 th	ASHRAE Distinguished Lecturer – TBD	11:45 @ Anthony’s
Feb. 12 th	UNMC Roundtable Discussion with Ken Hansen	11:45 @ Anthony’s
Mar. 12 th	ASHRAE Distinguished Lecturer – TBD	11:45 @ Anthony’s
Apr. 9 th	UNO Student Chapter Meeting	11:45 @ Anthony’s
May 14 th	Facility Tour – TBD	TBD
Jun. 25 th	ASHRAE Golf Outing	Iron Horse Golf Club



American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.



Lincoln Meeting – Wednesday, October 10, 2012

Location: Valentino's, 35th & Holdrege, Lincoln
Check-in: Noon (Please arrive early to facilitate serving meals)
Lunch: To be served prior to 12:00 p.m.
Menu: Buffet **\$13.00**
Topic: Nebraska Boiler Inspection Program
Speaker: Christopher Cantrell, Nebraska Department of Labor, Boiler Inspection Program Manager

Pre-registration for this meeting would be GREATLY APPRECIATED!!!

Reservation required by Monday, October 8, 2012: Mike Barry, Black Hills Corp
mike.barry@blackhillscorp.com

Lincoln's Featured October ASHRAE Speaker

From 1992 to 1998 Christopher Cantrell was a U.S. Navy Nuclear Machinist's Mate. In this capacity he operated mechanical and steam systems in engine room and reactor compartment on board nuclear powered cruisers. Christopher became a boiler inspector after getting out of the Navy in 1998 and worked with Hartford Steam Boiler (HSB) for 9 years. While with HSB he was a new construction boiler inspector (ASME Authorized Inspector) and a National Board repair inspector from 1998 – 2003. In 2003, while still with HSB, he began inspecting nuclear facilities and nuclear construction shops and traveled all over the U.S.A. in this capacity. In 2007 Chris was

hired as the Chief Boiler Inspector with the State of Nebraska. Since hiring on as the Chief he served for two years on the ASME Boiler and Pressure Vessel Code Section XI Standards Committee. This is the code for inspection and repair of inservice nuclear power plant components. In the spring of 2011 he was voted on to the Board of Trustees of the National Board of Boiler and Pressure Vessel Inspectors as a Member At Large for a three year term. Christopher is certified by both the ASME and the National Board for conducting certificate renewal audits of non-nuclear manufacturing firms and repair firms for renewal of Code stamps issued by these

organizations. I am a Texan by birth, a Nebraskan by marriage, and have two great kids (5 year old son, 8 year old daughter), one great wife, and two black labs. I love college football and root like crazy for the Huskers as long as they are not playing Texas A&M (and yes, I do hate the Longhorns, too).

Christopher will present on the Nebraska Boiler Inspection Program, discussing the installation and removal of boilers, water heaters, pool heaters and pressure vessels and notification, inspection and code requirements.

Future Lincoln Chapter Meetings

Nov. 14 th	Measuring and Controlling HVAC Systems	Noon @ Valentino's
Dec. 12 th	TBD	Noon @ Valentino's
Jan. 9 th	ASHRAE 90.1 2010 Update	Noon @ Valentino's
Feb. 13 th	TBD	Noon @ Valentino's
Mar. 13 th	ASHRAE Distinguished Lecturer	Noon @ Valentino's
Apr. 10 th	Acoustics That Make the Grade	Noon @ Valentino's
May 8 th	Energy Code	Noon @ Valentino's

- Articles for next month are due by **Nov. 5, 2012**
- Please send to:
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ASHRAE, founded in 1894, is an international organization of 51,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.



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